

**REMARKS**

Claims 25-59 are the claims pending in the application.

Claims 1-24 are canceled without prejudice or disclaimer.

New claims 25-59 are added. The new claims correspond to the originally filed claims, except that the new claims explicitly recite analysis means. As set forth in further detail below, claim 1 is drafted in step-plus-function form with respect to the recitation of "analysis means." Step-plus-function claims are construed according to the specification in accordance with 35 U.S.C. § 112, and the new claims simply incorporate the means recited in the specification into independent claim 1. Support is found in the originally filed claims, for example, claims 5-8 and in the specification, for example, page 18, lines 7-13, the sections entitled "Co-word Methods and Patent Analysis" and "Co-citation Methods and Patent Analysis," beginning on pages 21 and 35, respectively, and as mentioned in the abstract.

In particular, with respect to claim 25, step (b) is described, for example, at page 23, lines 2-5 and 12-18 of the specification (see paragraph [0062] of the published application); step (c) at page 24, lines 8-13 (see paragraph [0064] of the published application); step (d) at page 26, lines 4-16 (see paragraph [0066] of the published application); step (e) at page 26, lines 10-13 (see paragraph [0067] of the published application); step (f) at page 25, lines 20-21 (see paragraph [0068] of the published application); step (g) at page 27, lines 6 through the end of page 28 (see paragraph [0070] of the published application); steps (h) through (l) at page 29, line 20 through page 30, line 10 ("Optionally the process described in Step 080 can be applied to the

Second Word Matrix to further associate technology groups”) (see paragraphs [0070] through [0077] of the published application); step (m) at page 30, lines 18-21 (see paragraph [0077] of the published application); and step (n) at page 32, lines 8-23 (see paragraph [0078] of the published application).

Additionally, support may be found for the remaining steps in claim 25 as follows: step (o) —paragraph [0078]; step (p)—paragraph [0078]; step (q)—paragraphs [0081-82]; step (r)—paragraphs [0080—0082]; and step (s)—paragraph [0084].

No new matter is added, and it is respectfully requested that the Amendment be entered.

Claims 1-5, 11, 13-17, and 23 are rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 5,991,751 (“Rivette”).

Initially, Applicant notes that Rivette is discussed in the Background section of Applicant’s specification at page 9, lines 10-19. As set forth therein, Rivette merely discloses a system of multiple databases that correlates certain data with bill information, personnel information, research and development spending, *etc.*, using citation analysis.

In response to the rejection over Rivette, Applicant respectfully traverses because Rivette does not disclose all the recitations of Applicants’ claims.

Applicant’s claim 1 is written in step-plus-function format, pursuant to the provisions of 35 U.S.C. § 112, ¶ 6. Specifically, claim 1 recites an “analysis means,” which recitation is neither disclosed nor suggested in Rivette. According to § 112, ¶ 6, a step-plus-function recitation must be construed according to the corresponding description in the specification and equivalents thereof. Thus, while the claims, and not the specification, ordinarily define the limits

of an applicant's claimed invention, in the present claim 1, it is necessary to consult the specification for specifically described "analysis means."

Applicant's specification provides that "analysis means" is a means to determine relationships among the documents in a selected set, which includes means mentioned in the specification including co-occurrence analysis methods, such as co-word or co-citation analysis, artificial intelligence, data mining, and knowledge discovery methods such as genetic algorithms, Bayesian learning, neural networks, Markov models, hidden Markov models, partial least squares, and principle component analysis.

Rivette's disclosure is unrelated to any of these particular analysis means. Although Rivette mentions citation of patents, it neither suggests nor discloses the use of co-occurrence or any other of the analysis means included within Applicant's claims. Mere cataloguing of citations does not suggest or disclose the detailed co-citation analysis described on pages 35-43 of Applicant's specification.

Rivette describes a patent clustering and bracketing module (column 90, line 51) in which patent relationships are identified only through source patents and citing patents. In other words, Rivette discloses identifying patent relationships through citation analysis methods. In column 91, line 27, Rivette describes the display as a "horizontal-oriented tree format" where an "icon at the root of the tree represents a source patent," illustrated in Figures 71-73.

Citation analysis as discussed in Rivette *assumes* that the patent author is diligent and skilled enough to incorporate all relevant references. See, for example, Warr, *Chemistry and Industry*, August 7, 1995 (a copy of which is provided herewith for the Examiner's

convenience), which notes that “patent citations are not governed by the same laws of etiquette as literature citations, and the purpose and procedures are different.” Thus, the citation method disclosed in Rivette neither discloses nor suggests the analysis method of Applicant’s claims.

Visualizations based merely on citation analysis as in Rivette typically start with a single “source patent” and from that starting point, a map or visualization extends backwards or forwards to other references, citing other patents. The pattern of a citation map is typically that of an X with the source patent at the center of the X and forward references in one direction and backward references in other direction. The only difference in the format from one search to another is the width of the base and top of the X and the number of citation layers employed. Rivette shows these patterns in Figures 71-73.

In contrast, the Technology Topic of the present claims is formed based on the words used by inventors and attorneys, and the method achieves a clustering of groups of patents that are related, despite lack of citation or other links between the documents. A display of a technology topic does not have a single patent as a starting point and can therefore provide a more complex, more informative pattern. Figure 3 of the present invention illustrates the richness of the display by showing a laundry detergent area that is complex and mature as well as an agricultural area that is spotty and immature. The richness and complexity of the display conveys information from which business decisions can be made by viewing the patterns. For these reasons, the method disclosed in Rivette and mentioned in Applicant’s background section is fundamentally different from the claimed analysis method.

Therefore, Rivette does not disclose Applicants’ analysis means within Applicant’s

claim 1. Because Rivette does not disclose or suggest Applicant's particular analysis means, Rivette does not render unpatentable the invention of Applicant's claims, and it is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 6-8 and 18-19 are rejected under 35 U.S.C. § 103 as unpatentable over Rivette in view of U.S. Patent 6,457,028 ("Pitkow").

Initially, Applicant notes that U.S. Patent 6,038,574, which is related to Pitkow and names the same inventor as Pitkow, is discussed in Applicant's Background section at the top of page 10 of Applicant's specification. It is explicitly stated that the co-citation analysis as applied to website searching in Pitkow (6,038,574), is inadequate for the invention of the present claims.

It is conceded that Rivette does not disclose Applicant's particular analysis means. Pitkow is therefore asserted to disclose co-citation analysis.

Pitkow is directed to search techniques for sorting websites, including the use of co-citation analysis.

At the time of Applicant's invention, the claimed invention would not have been obvious from Pitkow in view of Rivette. One of ordinary skill at the time of Applicant's invention would not have been motivated to apply the co-citation analysis of websites of Pitkow to the data processing method of patents disclosed in Rivette. The co-citation method of sorting websites in Pitkow is merely a cataloguing function relying on links between sites. (See col. 9, ll. 31-52). Rivette, by contrast, concerns deriving detailed data from searching various databases, especially patent databases including complex images, tables, and charts, in addition to scientific text. One of ordinary skill would not have been motivated to apply the textual co-citation method for

website links in Pitkow to the diverse data structures contemplated in Rivette. And even if motivation were to exist, one of ordinary skill would not have been enabled by the disclosure to practice Applicant's claimed invention.

Moreover, Rivette itself acknowledges its own limitation in using citation, rather than co-citation techniques. Rivette contains numerous examples and lengthy explanations of its analysis means; however, it never contemplates a more complicated analysis means. It is instructive that Rivette only discusses citation in the context of "patent citation module 1004," which simply creates a list based of specific terms from patent documents based only on single conventional patent search fields. Therefore, at the time of Applicant's invention there was not motivation to apply co-citation analysis to Rivette.

Formatting problems provide additional distinction between the teachings of Rivette and Pitkow. As set forth at the top of page 16 of Applicant's specification, the presently claimed invention endeavors to overcome the previous difficulty of non-standard formats between data sets. Thus, prior to the discovery of the present inventor, one of ordinary skill would not have been motivated or able to apply complex analysis means such as co-citation to non-standard data structures.

For at least the reasons set forth above, one of ordinary skill would not have envisaged Applicants' invention from the cited art. Applicants' claimed invention is neither disclosed nor suggested from the cited references. Therefore, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Claims 7 and 19 are similarly rejected as unpatentable under § 103 over Rivette in view

of Pitkow, U.S. Patent 5,987,460 ("Niwa") and U.S. Patent 5,440,481 ("Kostoff").

As set forth above, Rivette and Pitkow are not properly combinable because one of ordinary skill would not have been motivated to apply the teachings of Pitkow to Rivette. Applicant acknowledges that Niwa and Kostoff recite co-occurrence and co-word analyses, respectively. However, as with Pitkow, one of ordinary skill in the art would not have been motivated to apply these techniques to the data processing methods of Rivette. Neither Niwa nor Kostoff confront the problems of non-standard data structures, and they both appear related only to providing lists of entries in simple text-limited databases.

Therefore, it is respectfully asserted that the cited references do not render the present claims unpatentable, even in combination. It is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 8-10 and 20-22 are rejected as unpatentable under 35 U.S.C. § 103 over Rivette in view of U.S. Patent 6,327,565 ("Kuhn") and U.S. Application 2002/0059047 ("Haaland").

In response, Applicants respectfully traverse. Haaland has a filing date of December 13, 2001. This falls after Applicant's filing date of January 7, 2001 and domestic priority dates of December 22, 2000 and August 9, 2000. Haaland therefore does not qualify as prior art, and it is requested that this rejection be withdrawn.

In regard to the assertion on page 7 of the Official Action stating that claims 10 and 22 are rendered unpatentable in view of the above cited references in addition to the application's alleged admission of prior art, Applicant strenuously disagrees that the discussion in the Background section renders Applicant's claims unpatentable. While certain analysis means are

mentioned in the background section, the cited references fail to apply the specific analysis means to Applicant's claimed invention. Therefore, Applicant does not admit to the cited references in the Background section being prior art, and it is respectfully requested that this rejection be reconsidered and withdrawn.

In order to further prosecution, Applicant submits new claims 25-58 in place of canceled claims 1-24 to more clearly emphasize the difference between the cited art and Applicant's invention.

Independent claim 25 is written in conventional claim format rather than step-plus-function format and sets forth a particular analysis means for the claimed invention. None of the cited references disclose the particular analysis means recited. Therefore, it is respectfully submitted that the claims are allowable and Applicant requests that all claims be allowed.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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## HighBeam Research

**Title:** Patents in competitive intelligence.

**Date:** 8/7/1995; **Publication:** Chemistry and Industry; **Author:** Warr, Wendy

If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle. Sun Tzu, 500 BC

Managers need a constant stream of information about the environment in which their company is operating: information about competitors, markets, products and companies. The terms competitive intelligence, business intelligence and strategic intelligence are used to define a company's business and core competencies, and to ask questions about competitors. But what precisely is competitive intelligence?

Competitive intelligence is certainly not a form of industrial espionage or unethical behaviour. Kirk Tyson, of Kirk Tyson International, has one down-to-earth method for deciding whether your behaviour is ethical: he says you should ask yourself whether you'd like your mother to read about it in the morning newspaper. The Society of Competitive Intelligence Professionals (SCIP) has a strict code of ethics; its members would certainly frown on the misuse of House of Commons notepaper (to cite a recent example of British investigative journalism).

One of the most recent definitions of competitive intelligence is the 'benefit model' put forward by SCIP in 1993. In this model, competitive intelligence enables a business to develop effective corporate strategies, expedite product development, protect new product investments, improve quality, anticipate competitor actions and motives, initiate marketing plans successfully, determine likely candidates for strategic alliances, and defend the company against a competitor's intelligence.

A company's information and intellectual property assets can be immensely more valuable than its tangible assets. Glen Omura, of Michigan State University, quotes Philip Morris' acquisition of Kraft for \$13bn, although Kraft's tangible assets - factory, equipment and laboratories - were only worth \$1.3bn. Yet many companies spend most of their time managing only the tangible assets.

Dick Klavans, currently president of SCIP, says that competitive intelligence has its roots in planning, information science, marketing, decision science and political science. According to Tyson, competitive intelligence evolves in four stages:

Stage 1 - there are no research or intelligence activities and little or no strategic planning.

Stage 2 - there is a limited library or research function and strategic planning is a separate activity.

Stage 3 - an intelligence system is in place and strategic management is fairly well developed.

Stage 4 - a comprehensive strategic management and intelligence system is in place and working effectively, with full integration.

Most companies are now at stage 2 or 3; in ten years' time they will need to be at stage 3 or 4 if they are to survive.

Many companies have adopted the wisdom of Sun Tzu and have a strategic intelligence function, although its name and its position in the organisational structure vary widely. A recent study by the firm Arthur D Little has shown that the best characteristics are senior management commitment, good communication pathways (this is critical) and continuous linking of information with decisions.

Many sources are used in competitive intelligence, including online databases, conferences, market research, feedback from sales staff, competitive advertisements, news clippings, off-the-shelf studies, benchmarking, product teardown, direct interviewing and patents. Patent citation analysis, however, is a more controversial technique.

#### Patent citation analysis

Every day 5000 new research papers and 2000 new patents are published. Typically, each will cite several other earlier, related patents or papers. Using statistical tools to analyse this wealth of citation information, it should be possible to allocate 'quality ratings' to researchers, and detect technologies and trends.

Analysis of technical literature citations (from the Institute for Scientific Information's Science Citation Index) is a well-established technique. Patent citation analysis is a more recent development, which seeks to link patents in the same way that science citation analysis links the references in scientific papers. It has equally vocal champions and critics, but is it 'safe' or statistically reliable?

CHI Research of New Jersey has made a business out of patent citations and technological indicators. Indicators include current impact index, technological strength, technology cycle time and science indicators. CHI has also developed a systematic procedure for defining patented technology (ChemTech, February 1993, 23(2), 52-69). In addition, they have studied inventors, showing how research laboratories are built around a small number of highly productive key individuals.

On the face of it, this looks very interesting, but some experts are highly sceptical about the use (or misuse) of patent statistics and have produced cogent arguments about the dangers. Patent citations are not governed by the same laws of etiquette as literature citations, and the purpose and procedures are different.

Differences between the US and Europe mean that patent citations are not truly comparable. US examiners cite many more patents than European Patent Office or Patent Co-operation Treaty examiners. Europe has international search report codes to weight the significance of a cited reference. Other possibilities for statistical 'lies' include the number of countries in which a patent has been filed, and abandoned patents and US applications.

Stuart Kaback of Exxon believes that high patent citation counts may be used as a flag, but should not be used as clear indicators for decision making. He prefers to use litigation history as a criterion for ranking the importance of a patent.

On the other hand, Mike Harvey of Derwent Information firmly believes that patent citation analysis is a useful competitive intelligence tool. It is not to be used for definitive statistics but rather as an archaeologist's trowel, which can be used to dig out interesting facts. Companies protect their intellectual property, at some considerable expense, by taking out patents. So competitive intelligence gathering from patents is likely to be more useful than from other publications, because of the legal and cost aspects.

Harvey has done statistical studies using a patents citation database of original, cited and citing patents. He has shown that, while faith should not be placed in absolute numbers, ratios and ranking can unearth clues that can be very interesting. When used correctly patent citation analysis can have a valuable role to play in competitive intelligence work.

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